OR-1. 2-ARYL AND 2-THIENYLBENZAZINES WITH LUMINESCENT PROPERTIES

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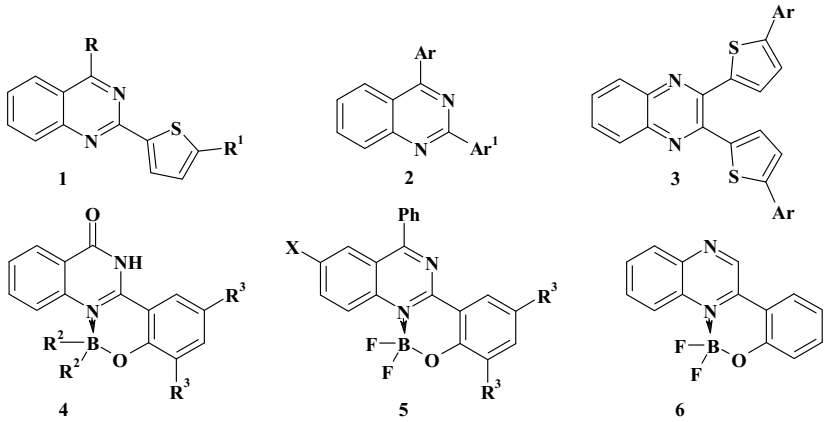
The benzazine core due to electron withdrawing properties is considered as perspective fragment for construction of π-conjugated systems with push–pull architecture [1, 2]. 2-Hydroxybenzazines can be used as N, O-bidentate ligands for creation of boron chelate complexes possessing promising luminescence properties [3, 4].

The novel push-pull systems (**1–3**) were obtained via Suzuki and Sonogashira Pd-catalyzed cross-coupling reactions. The photophysical properties of compounds **1–3** have been investigated in two solvents, and effect of protonation has been studied [5–8]. Some quinazoline derivatives possess intensive luminescence in toluene (up to 82 %).



R = morpholin-1-yl, CN, OH; **R[1]** = Ar, 2-thienyl, Ph–Ca≡C–, 4-MeOC$_6$H$_4$–Ca≡C–; **Ar** = Ph, 4-methoxythenyl, 3,4,5-trimethoxyphenyl, 4-(diethylamino)phenyl, 4-(diphenylamino)phenyl, 4-(9H-carbzol-9-yl)phenyl, **Ar[1]** = Ph, 2-fluorenyl, cymantrenyl; **R[2]** = F, Ph; **R[3]** = H, t-Bu; **X** = H, Cl

Coordination of N, O-ligands with boron trifluoride etherate led to BF_2 complexes (**4–6**) under rather mild conditions. The correlation between compounds structure and the fluorescence intensity, absorption and emission maximum in solution has been shown [9]. Some of samples demonstrated strong blue-green luminescence in the solid state.

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